

Original Research

Assessment of symptoms and complications of functional endoscopic sinus surgery in patients of chronic rhino sinusitis

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ABSTRACT:

Background: The goal of functional endoscopic sinus surgery (FESS) is to remove tissue that is obstructing the osteo metal complex (OMC) and facilitate drainage while preserving the mucous membrane and normal, non-obstructing structure. The present study was conducted to assess symptoms and complications of functional endoscopic sinus surgery in patients of chronic rhino sinusitis. **Materials & Methods:** 95 adult patients of chronic rhino sinusitis scheduled for FESS of both genders were enrolled and their symptoms and complications were recorded. **Results:** Age group 20-30 years had 18 males and 21 females, 30-40 years had 12 males and 14 females and >40 years had 11 males and 9 females. The difference was non-significant ($P > 0.05$). Common symptoms was halitosis in 10, anosmia & hyposmia in 8 and earache/ ear fullness, nasal obstruction in 71, nasal discharge in 15, post nasal drip in 22, headache in 64 patients. Common complications were bleeding nose in 6, orbital subcutaneous emphysema in 3 patients, synechia seen in 1 and lower lid ecchymosis in 2 patients. The difference was significant ($P < 0.05$). **Conclusion:** The most of the patients of chronic rhino sinusitis undergoing functional endoscopic sinus surgery had complications such as bleeding nose, orbital subcutaneous emphysema, lower lid ecchymosis and synechia.

Key words: functional endoscopic sinus surgery, post nasal drip, synechia

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INTRODUCTION

The goal of functional endoscopic sinus surgery (FESS) is to remove tissue that is obstructing the osteo metal complex (OMC) and facilitate drainage while preserving the mucous membrane and normal, non-obstructing structure.¹ With the excellent intra-operative imaging of the OMC provided by the rigid fiberoptic nasal telescope, the surgery can be accurately targeted to the important locations. A tiny camera that is fastened to the endoscope's ocular allows the image to be shown onto a TV screen. Using microdebriders, diseased tissue is removed while the healthy mucosa is preserved.²

Endoscopic sinus surgery has been a common and safe treatment for abnormalities of the Paranasal Sinuses (PNS) for the past 20 years.³ The efficiency and safety of this operation have been enhanced by powered instruments and stereotactic image-guided surgery. These days, endoscopic methods for treating benign tumors of the orbit, sinuses, nose, and anterior

cranial fossa are becoming more and more common. Endoscopic sinus surgery has been transformed by the use of powered dissection in conjunction with suction.⁴ Nonetheless, the surgery has been accompanied with the possibility of problems. A number of issues with endoscopic sinus surgery emerged in the late 1980s and early 1990s. Nevertheless, there is no denying that new instrumentation technology has advanced. Because the powered cutting tool cannot hold the intact skull base or lamina papyracea, it is believed to be safe around these areas.⁵ The present study was conducted to assess symptoms and complications of functional endoscopic sinus surgery in patients of chronic rhino sinusitis.

MATERIALS & METHODS

The present study consisted of 95 adult patients of chronic rhino sinusitis scheduled for FESS of both

genders. All patients gave their written consent for participation in the study. Data such as name, age, gender etc. was recorded. Examination using anterior and posterior rhinoscopy were performed on each subject. When grading nasal endoscopic results, the Lanza Kennedy criteria are employed to consider the presence of polyps, oedema, and secretion. The traditional Messerklinger method

of general anesthesia was used for all of the patients' surgeries. Following surgery, all patients were maintained under close observation for a duration of three to six months. Every visit included a note of the patient's symptoms as well as any intra- or post-operative problems. Results of the study were assessed statistically. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Age group (Years)	Male	Female	P value
20-30	18	21	0.09
30-40	12	14	
>40	11	9	

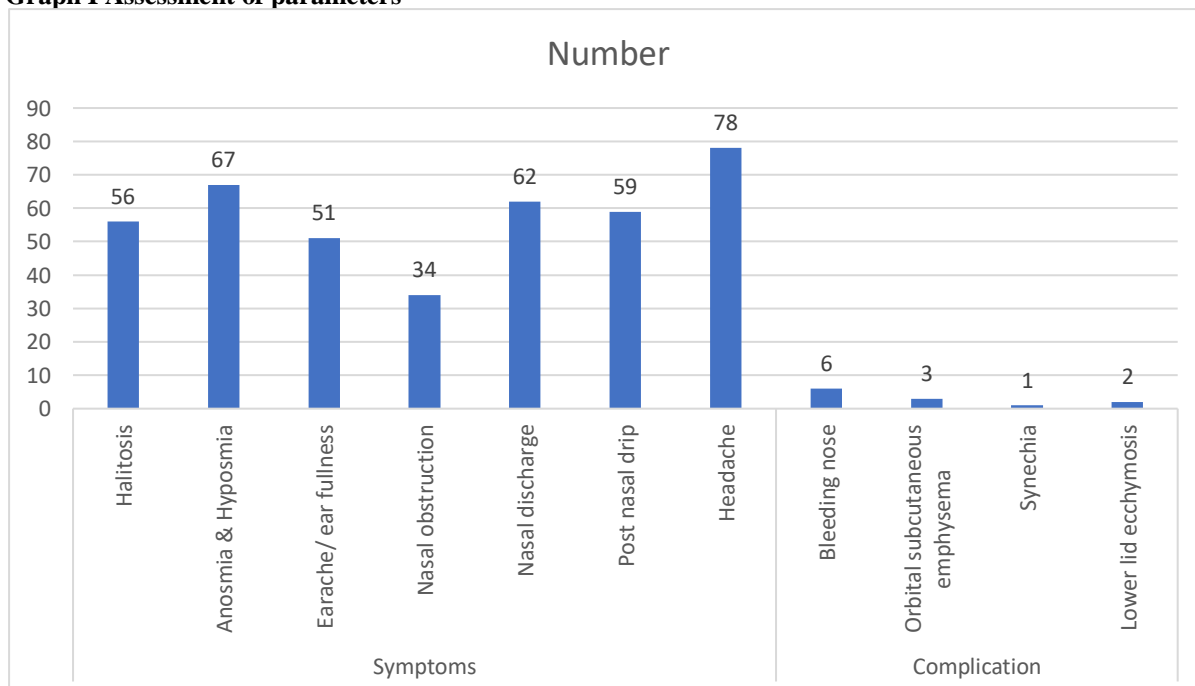
Table I shows that age group 20-30 years had 18 males and 21 females, 30-40 years had 12males and 14 females and >40 years had 11 males and 9 females. The difference was non- significant (P> 0.05).

Table II Assessment of parameters

Parameters	Variables	Number	P value
Symptoms	Halitosis	56	0.75
	Anosmia & Hyposmia	67	
	Earache/ ear fullness	51	
	Nasal obstruction	34	
	Nasal discharge	62	
	Post nasal drip	59	
	Headache	78	
Complication	Bleeding nose	6	0.05
	Orbital subcutaneous emphysema	3	
	Synechia	1	
	Lower lid ecchymosis	2	

Table II, graph I shows that common symptoms was halitosis in 56, anosmia & hyposmia in 67 and earache/ ear fullness in 51, nasal obstruction in 34, nasal discharge in 62, post nasal drip in 59, headache in 78 patients. Common complications were bleeding nose in 6, orbital subcutaneous emphysema in 3 patients, synechia seen in 1 and lower lid ecchymosis in 2 patients. The difference was significant (P< 0.05).

Graph I Assessment of parameters



DISCUSSION

A very advanced form of surgery known as functional endoscopic sinus surgery (FESS) has completely changed how chronic sinus disorders are surgically managed.⁶ FESS is essential to the treatment of some disorders in the field of ophthalmology; however, it is not risk-free. FESS was not just confined to the realm of otolaryngology. Its uses in ophthalmology—orbital decompression, in particular—became more apparent, albeit frequently at significant risk. Ocular indications for FESS include pituitary tumor surgery, lacrimal blockage, optic nerve (ON) decompression, orbital decompression of thyroid orbitopathy, and traumatic loss of vision.⁷ The connection between ophthalmology and otolaryngology has been utilized to treat disorders like orbital decompression, lacrimal duct issues, optic nerve decompression, subperiosteal abscess drainage, and silent sinus syndrome.^{8,9} The present study was conducted to assess symptoms and complications of functional endoscopic sinus surgery in patients of chronic rhino sinusitis.

We found that age group 20-30 years had 18 males and 21 females, 30-40 years had 12 males and 14 females and >40 years had 11 males and 9 females. Satish et al¹⁰ conducted a study in which 90 patients of chronic rhinosinusitis were classified into two groups depending on presence and absence of nasal polyps. The two groups were evaluated using subjective (patient complaints) and objective (computed tomography scan and endoscopy scores) criteria. Preoperative data were compared with data obtained 12 months post endoscopic sinus surgery. The study included 38 patients of chronic rhinosinusitis and 52 patients of nasal polyps. The patients of nasal polyp group presented with increased severity of symptoms of nasal blockage, nasal discharge and reduced sense of smell as compared to the chronic rhinosinusitis group who had significantly higher presentation of headache and facial pain. The preoperative CT scan revealed significantly higher bilateral disease with increased involvement of multiple sinuses in nasal polyp group. Post endoscopic sinus surgery both the groups showed significant improvement in their symptoms with the nasal polyp group demonstrating reduction in improvement on 1 year follow up. The patients with chronic rhinosinusitis and nasal polyp had varied severity of symptoms with the nasal polyp group having higher nasal symptoms and increased severity as compared to chronic rhinosinusitis group.

We observed that common symptoms were halitosis in 10, anosmia & hyposmia in 8 and earache/ ear fullness, nasal obstruction in 71, nasal discharge in 15, post nasal drip in 22, headache in 64 patients. Common complications were bleeding nose in 6, orbital subcutaneous emphysema in 3 patients, synechia seen in 1 and lower lid ecchymosis in 2 patients. Ehab et al¹¹ identified the commonest age group affected by CRS, the symptoms and signs of CRS, to compare the findings of CT scans with

endoscopic and operative findings and to reveal the most common operative steps performed in functional endoscopic sinus surgery (FESS). The commonest age group affected by CRS was in those between 21-30 years (40%), the mean age was 30.4 years with male to female ratio 1.27:1. The commonest chief complaint was nasal obstruction (46%). The commonest endoscopic finding was septal deviation (86%). The commonest CT finding was inferior turbinate hypertrophy (72%). Uncinectomy and middle meatal antrostomy were the commonest surgical procedures performed (94%).

Children who underwent surgery had their symptoms, surgical extent, complications, and results assessed by Siedek et al.¹² All patients received questionnaires on their symptoms and quality of life in order to analyze the results. A total of 115 children—77 boys and 38 girls—had a FESS surgery as a result of CRS. The questionnaires had a 64% response rate (73 out of 115 respondents), and the average follow-up period was 5.4 (+/-1.8) years. Of the patients, 71% reported an improvement in their overall quality of life and 76% reported an improvement in their primary symptoms. The VAS indicated a significant ($p < 0.01$) improvement in overall quality of life. For CRS patients, postnasal drip was resolved in 72.5% of cases, face pain in 65.5%, and nasal blockage in 62.3% of cases. Improvement of primary nasal symptoms (PNS) of CRS in patients with CF, asthma or allergies as well as in youngsters who had started or continued to smoke 35 out of 73 (48%) was significantly less.

CONCLUSION

Authors found that most of the patients of chronic rhino sinusitis undergoing functional endoscopic sinus surgery had complications such as bleeding nose, orbital subcutaneous emphysema, lower lid ecchymosis and synechia.

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